We Claim:

1.   A method of processing electronic content comprising:

         providing an internal software module defining at
5   least one internal software element;

         providing a plurality of respective registries for different types of software elements, the plurality of respective registries comprising a software element registry for external software elements; and

10   processing electronic content using the internal software module to resolve embedded references in the electronic content to the internal software elements and embedded references in the electronic content to any external software elements in the software element registry,

15   wherein the external software elements in the software element registry comprise at least one external software element supported by software code, wherein processing to resolve embedded references in the electronic content to the at least one external software element
20 comprises supplying a handle associated with the electronic content, and wherein the electronic content is accessible to the software code using the handle.

2.   The method of claim 1, further comprising:

25   providing a plurality of external software elements; and

         registering each of the plurality of external software elements in the software element registry.

3.   The method of claim 1, wherein the at least one internal software element comprises an internal visual element having a visual component for display, and wherein

5   the at least one external software element comprises an external visual element having a visual component for display.

4.   The method of claim 2, wherein each external

10 software element is supported by software code, and wherein registering comprises providing registration information for each external software element from its supporting software code to the software element registry.

15 5.   The method of claim 4, wherein the registration information comprises an external software element name and a pointer to a portion of the software code supporting the external software element.

20 6.   The method of claim 1, wherein processing to resolve embedded references in the electronic content to any external software elements in the software element registry further comprises:

        requesting each embedded external software element
25 from the software element registry;

        determining whether the embedded external software element has been registered in the software element registry; and

returning a representation of the external software element where the embedded external software element is registered in the software element registry.

5 7.   The method of claim 1, wherein the software code manipulates the electronic content using the handle.

8.   The method of claim 1, wherein the plurality of registries further comprises a software module registry for
10 software modules.

9.   The method of claim 8, further comprising:

providing at least one external software module; and

15 registering with the software module registry each external software module that is to be accessible to the internal software module any other external software modules.

20 10.   The method of claim 9, further comprising:

registering the internal software module with the software module registry.

11.   The method of claim 9, wherein the at least one
25 external software module comprises an external software

module supporting an external software element, further
comprising:

registering the external software element with the
software element registry.

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12.   The method of claim 11, wherein the internal
software module supports a notify function to notify the at
least one external software module that electronic content
is being processed, further comprising:

10   registering for the notify function each external
software module that is to be notified that electronic
content is being processed;

providing a notification to each external software
module registered for the notify function that electronic
15   content is being processed.

13.   The method of claim 12, wherein providing a
notification comprises supplying a content handle using
which the electronic content is accessible.

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14.   The method of claim 13, wherein at least one of
the external software modules registered for the notify
function accesses and manipulates the electronic content
using the content handle.

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15.   The method of claim 9, wherein the plurality of registries further comprises a script function registry for script functions.

5   16.   The method of claim 15, wherein the at least one software module comprises a software module that defines at least one script function, further comprising:

        registering with the script function registry each of the at least one script function that is to be accessible
10   to the electronic content.

17.   The method of claim 1, wherein the electronic content comprises a UI (user interface) definition for a software application.

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18.   The method of claim 17, wherein the software application is a television program schedule application.

19.   The method of claim 1, implemented in a television
20   receiver.

20.   A computer readable medium storing statements or instructions which when executed by a processor perform the method of claim 1.

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21.   The method of claim 15, further comprising:

calling a script function referenced in electronic content using a content handle,

wherein the electronic content is accessible using the handle.

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22.   The method of claim 16, wherein the software module registry supports a query function for querying availability of software modules, and wherein registering with the script function registry comprises registering the

10   query function with the script function registry.

23.   A method of processing electronic content comprising:

providing an internal software module defining

15   embeddable software elements;

providing an external software module;

processing the electronic content using the internal software module to resolve embedded references in the electronic content to the embeddable software elements;

20   notifying the external software module of the processing of the electronic content; and

accessing the electronic content by the external software module responsive to the notifying.

25   24.   The method of claim 23, further comprising:

manipulating the electronic content by the external software module.

25.   The method of claim 23, further comprising:

5   providing a software module registry;

registering an interface of the internal software module with the software module registry; and

registering the external software module with the internal software module using the interface to receive a
10   notification of the processing of the electronic content.

26.   The method of claim 25, wherein providing an external software module comprises providing a plurality of external software modules, wherein registering comprises
15   registering with the internal software module using the interface each of the plurality of external software modules that is to receive a notification, and wherein notifying comprises notifying each external software module registered with the internal software module.

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27.   The method of claim 26, further comprising:

registering with the software module registry each of the plurality of external software modules that is to be accessible to the internal software module and other
25   external software modules.

28.   The method of claim 26, wherein the plurality of external software modules comprises software modules supporting embeddable external software elements, further comprising:

5   providing a software element registry for the embeddable external software elements; and

        registering with the software element registry each of the embeddable external software elements that is to be accessible to the electronic content,

10   wherein processing further comprises resolving embedded references to the embeddable external software elements registered in the software element registry.

29.   The method of claim 26, wherein the plurality of
15   external software modules comprises software modules supporting external script functions, further comprising:

        providing a script function registry for script functions; and

        registering with the script function registry each
20   of the external script functions to be accessible to the electronic content.

30.   The ·method of claim 26, wherein the plurality of external software modules comprises software modules
25   supporting at least one of embeddable external visual elements having a visual component for display on a display device and external script functions, further comprising:

providing a visual element registry and a script function registry for visual elements and script functions, respectively; and

registering with the visual element registry and
5 the script function registry, respectively, each of the external visual elements and external script functions to be accessible to the electronic content.

31.   A computer readable medium storing statements or
10 instructions which when executed by a processor perform the method of claim 23.

32.   A system comprising:

a plurality of software element managers, each
15 software element manager maintaining a respective registry of software elements of a predetermined type, the plurality of software element managers comprising an embeddable software element manager maintaining a registry of embeddable externally defined software elements; and

20   an electronic content loader defining embeddable internal software elements, configured to receive electronic content, to resolve references in the electronic content to the embeddable internal software elements, and to resolve references in the electronic content to any embeddable
25 external software elements in the registry of the embeddable software element manager,

wherein the embeddable external software elements in the registry of the embeddable software element manager

comprise at least one embeddable external software element supported by software code, wherein the electronic content loader is further configured to resolve the references in the electronic content to the at least one embeddable

5   external software element by supplying a handle associated with the electronic content, and wherein the electronic content is accessible to the software code using the handle.

33.   The system of claim 32, further comprising:

10   a plurality of external software modules comprising an external software module defining at least one of the embeddable externally defined software elements,

         wherein the plurality of software element managers further comprises a software module manager maintaining a

15   registry of any of the external software modules that are to be accessible to the content loader and other external software modules.

34.   The system of claim 32, wherein the plurality of

20   software element managers further comprises a script function manager maintaining a registry of script functions, supported by at least one of the content loader and any of the external software modules, that are to be accessible to the electronic content.

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35.   The system of claim 32, wherein the plurality of software element managers provides a defined common interface for the electronic content, and wherein the

processor is further configured to provide a custom interface between a native computer system and the plurality of software element managers.

5 36.   A system comprising:

an internal software module defining embeddable software elements and configured to process electronic content by resolving references in the electronic content to the embeddable software elements; and

10   an external software module configured to detect the processing of the electronic content and to access the electronic content responsive to the detection.

37.   The system of claim 36, wherein the internal
15 software module is further configured to supply to the external software module a notification that the electronic content is being processed and a handle associated with the electronic content, and wherein the external software module is configured to detect the processing by receiving the
20 notification and to access the electronic content using the handle.

38.   The system of claim 36, further comprising:

a plurality of external software modules including
25 the external software module; and

a software module manager maintaining a registry of software modules,

wherein the internal software module and at least one of the external software modules is further configured to register with the software module manager.

5   39.   The system of claim 38, wherein the internal software module and the at least one of the external software modules is further configured to register with the software module manager upon detection of a respective registration trigger.

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40.   The system of claim 39, wherein the registration trigger is a trigger selected from the group consisting of: an initialization trigger and a runtime trigger.

15   41.   An electronic device comprising:

a processor; and

a computer-readable medium accessible by the processor and storing instructions which when executed by the processor perform the method comprising:

20   providing an internal software module defining an embeddable internal software element;

providing a plurality of respective registries for different types of software elements, the plurality of respective registries

25   comprising an embeddable software element registry for an externally defined embeddable external software element;

processing electronic content using the internal software module to resolve any embedded references in the electronic content to the embeddable internal software element and any embedded references in the electronic content to the embeddable external software element in the embeddable software element registry, wherein the embeddable external software element is supported by software code, wherein processing electronic content to resolve any embedded references in the electronic content to the embeddable external software element comprises supplying a handle associated with the electronic content, and wherein the electronic content is accessible to the software code using the handle;

providing an external software module;

detecting the processing of the electronic content; and

providing access to the electronic content by the external software module.

42.   A system comprising:

means for providing an internal software module defining an embeddable internal software element;

means for providing a plurality of respective registries for different types of software elements, the plurality of respective registries comprising an embeddable software element registry for an externally defined embeddable external software element;

means for processing electronic content using the internal software module to resolve any embedded references in the electronic content to the embeddable internal software element and any embedded references in the

5   electronic content to the embeddable external software element in the embeddable software element registry, wherein the embeddable external software element is supported by software code, wherein processing electronic content to resolve any embedded references in the electronic content to

10 the embeddable external software element comprises supplying a handle associated with the electronic content, and wherein the electronic content is accessible to the software code using the handle;

means for providing an external software module;

15 means for detecting the processing of the electronic content; and

means for providing access to the electronic content by the external software module.